Application No. 09/778,371

Claim Amendments and New Claims

This listing of claims will replace all prior versions and listings of claims in the present application.

~~CLAIMS~~

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1. (Currently Amended) An absorbent article comprising:

(1) a backsheet;

(2) a liquid pervious topsheet joined to the backsheet;

(3) an absorbent core disposed intermediate to the topsheet and the backsheet; and

(4) a thermal cell actuator which adds or removes heat from at least a portion of the absorbent article upon actuation so as to result in a useful function selected from the group consisting of:

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a) maintaining the article at a predefined temperature,

b) maintaining relative humidity in a volume between a wearer and the article when the article is worn

c) melting a material disposed on the article,

d) changing a mechanical property of a [different] component of the article other than the thermal cell actuator,

e) changing the breathability of a component of the article, and

f) changing the vapor pressure of a material disposed on the article.

2. (Currently Amended) An absorbent article comprising:

(1) a backsheet;

(2) a liquid pervious topsheet joined to the backsheet;

(3) an absorbent core disposed intermediate to the topsheet and the backsheet;

(4) a thermal cell actuator which adds or removes heat from at least a portion of the absorbent article upon actuation so as to result in a useful function selected from the group consisting of:

a) maintaining the article at a predefined temperature,

b) maintaining relative humidity in a volume between a wearer and the article when the article is worn

c) melting a material disposed on the article,

d) changing a mechanical property of a [different] component of the article other than the thermal cell actuator,

e) changing the breathability of a component of the article, and

f) changing the vapor pressure of a material disposed on the article; and

(5) a triggering mechanism connected with the thermal cell actuator whereby a [non-urine] force or sensor based signal within the article causes the thermal cell actuator to add or remove heat from at least a portion of the absorbent article.

3. (Currently Amended) An absorbent article comprising:

(1) a backsheet;

(2) a liquid pervious topsheet joined to the backsheet;

(3) an absorbent core disposed intermediate to the topsheet and the backsheet; and

(4) an electrically powered thermal cell actuator which adds or removes heat from at least a portion of the absorbent article upon actuation so as to result in a useful function selected from the group consisting of:

a) maintaining the article at a predefined temperature,

b) maintaining relative humidity in a volume between a wearer and the article when the article is worn

c) melting a material disposed on the article,

d) changing a mechanical property of a [different] component of the article other than the thermal cell actuator,

e) changing the breathability of a component of the article, and

f) changing the vapor pressure of a material disposed on the article.

4. (Previously Amended) The absorbent article of claim 1 wherein the thermal cell actuator the function is performed at location between the backsheet of the article and the skin of the wearer in response to a change in relative humidity, moisture, or temperature.

5. (Previously Amended) The absorbent article of claim 1 wherein the thermal cell actuator performs the function in response to the application of a tensile force by a caregiver to extend a portion of a garment body, or in response to the application of a normal force to compress a portion of the garment body by a caregiver.

6. (Currently Amended) The absorbent article of claim 1 wherein the action of [the] a caregiver is an application of a tensile force to peel a tab exposing an opening in the thermal cell actuator which allows for the [activation] actuation of said actuator.

7. (Original) The absorbent article of claim 1 wherein the thermal cell actuator controls humidity or temperature in the article.

8. Canceled

9. (Original) The absorbent article of claim 1 wherein the thermal cell actuator includes a material that performs an exothermic or endothermic reaction.

10. (Previously Amended) The absorbent article of claim 9 wherein the thermal cell actuator performs an endothermic reaction using a reactant selected from the group: $Na_2HPO_4*12H_2O$, $Na_2SO_4*10H_2O$, $Na_2CO_3*10H_2O$, NH4NO3, KCl, NH4Cl, KNO3, NaNO3, KCNS, NH4CNS, Urea, NaCH3COO*3H2O.

11. (Previously Amended) The absorbent article of claim 1 wherein the thermal cell actuator includes a Peltier cell.

12. (Original) The absorbent article of claim 1 comprising a thermal cell actuator that provides a constant temperature in a region of the article during use of the article of about 15° to about 25° Celsius.

13. (Original) The absorbent article of claim 12 wherein the thermal cell actuator is not in contact with the wearer's skin when the article is worn.

14. (Original) The absorbent article of claim 12 wherein the thermal cell actuator is in vapor communication with the wearer's skin such that vapor can condensate inside the article.

15. (Original) The absorbent article of claim 12 wherein the thermal cell actuator is triggered by a user during application of the article.

16. (Original) The absorbent article of claim 12 wherein the constant temperature in the region is maintained for at least 1 hour.

17. (Currently Amended) The absorbent article of claim 1 wherein the thermal cell actuator changes a mechanical property of a [different] component of the article other than the thermal cell actuator.

18. (Original) The absorbent article of claim 17 wherein the component of the article is a waist opening or a cuff opening.

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19. (Previously Amended) The absorbent article of claim 1 wherein activation of the thermal cell actuator results in a change in the vapor pressure of a material disposed on the article.

20. (Original) The absorbent article of claim 19 wherein the thermal cell actuator provides at least a portion of the article with a temperature of less than about 25° Celsius.